

## ARB INFORMATION TECHNOLOGY MINI-FSR

### SECTION A: MINI-FSR PROJECT INFORMATION

1.	Submittal Date				
2.	Type of Document	m-FSR	SPR	PSP Only	Other:
	Project Number				
3.	Project Title				Estimated Project Dates
	Project Acronym				
4.	Submitting Division				
5.	Reporting Branch				

6.	<b>Project Objectives (what is to be achieved)</b>

[illegible]

**APPROVALS:**

\_\_\_\_\_  
Division Chief Date: \_\_\_\_\_

\_\_\_\_\_  
Project Management Officer Date: \_\_\_\_\_

\_\_\_\_\_  
Chief Information Officer Date: \_\_\_\_\_

\_\_\_\_\_  
Information Security Officer (per Section VIII) Date: \_\_\_\_\_

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION A: MINI-FSR PROJECT INFORMATION**

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<b>7.</b>	<b>Proposed Solution (how will objectives be achieved)</b>

**ARB INFORMATION TECHNOLOGY PROJECT MINI-FSR**  
**SECTION B: PROJECT CONTACTS**

<b>Project #</b>	
<b>Doc. Type</b>	

<b>Executive Contacts</b>								
	<b>First Name</b>	<b>Last Name</b>	<b>Area Code</b>	<b>Phone #</b>	<b>Ext.</b>	<b>Area Code</b>	<b>Fax #</b>	<b>E-mail</b>
<b>Agency Secretary</b>	Winston	Hickox	916					<a href="mailto:Whickox@calepa.ca.gov">Whickox@calepa.ca.gov</a>
<b>Dept. Director</b>	Catherine	Witherspoon	916					<a href="mailto:Cwithers@arb.ca.gov">Cwithers@arb.ca.gov</a>
<b>Budget Officer</b>	Judy	Tanimoto	916					<a href="mailto:Jtanimot@arb.ca.gov">Jtanimot@arb.ca.gov</a>
<b>CIO</b>	Bill	Welty	916					<a href="mailto:Wwelty@arb.ca.gov">Wwelty@arb.ca.gov</a>
<b>Proj. Sponsor</b>								

<b>Direct Contacts</b>								
	<b>First Name</b>	<b>Last Name</b>	<b>Area Code</b>	<b>Phone #</b>	<b>Ext.</b>	<b>Area Code</b>	<b>Fax #</b>	<b>E-mail</b>
<b>Doc. prepared by</b>								
<b>Primary contact</b>								
<b>Project Manager</b>								

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION C: PROJECT RELEVANCE TO ARB IT PROGRAM AND STRATEGIES**

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1.	What is the date of your current Operational Recovery Plan (ORP)?	Date	1/1/2001; Updated 1/31/2003	Project #	
2.	What is the date of your current Agency Information Management Strategy (AIMS)?	Date	8/1/2001	Doc. Type	
3.	For the proposed project, provide the page reference in your current AIMS and/or strategic business plan.	Doc.			
		Page #			

  

	Yes	No
4. Is the project reportable to control agencies?		
If YES, CHECK all that apply:		
a)	The project involves a budget action.	
b)	A new system development or acquisition that is specifically required by legislative mandate or is subject to special legislative review as specified in budget control language or other legislation.	
c)	The project involves the acquisition of microcomputer commodities and the agency does not have an approved Workgroup Computing Policy.	
d)	The estimated total development and acquisition cost exceeds the departmental cost threshold.	
e)	The project meets a condition previously imposed by Finance.	

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION D: BUDGET INFORMATION**

<b>Project #</b>	
<b>Doc. Type</b>	

<b>Budget Augmentation Required?</b>																															
No																															
Yes	<table border="1"> <tr> <td colspan="10">If YES, indicate fiscal year(s) and associated amount:</td> </tr> <tr> <td>FY</td> <td></td> <td>FY</td> <td></td> <td>FY</td> <td></td> <td>FY</td> <td></td> <td>FY</td> <td></td> </tr> <tr> <td>\$</td> <td></td> <td>\$</td> <td></td> <td>\$</td> <td></td> <td>\$</td> <td></td> <td>\$</td> <td></td> </tr> </table>	If YES, indicate fiscal year(s) and associated amount:										FY		FY		FY		FY		FY		\$		\$		\$		\$		\$	
If YES, indicate fiscal year(s) and associated amount:																															
FY		FY		FY		FY		FY																							
\$		\$		\$		\$		\$																							

**PROJECT COSTS**

1.	Fiscal Year							<b>TOTAL</b>
2.	One-Time Cost							\$
3.	Continuing Costs							\$
4.	<b>TOTAL PROJECT BUDGET</b>	\$		\$		\$		\$
5.	One-Time PY's							
6.	Ongoing PY's							

**SOURCES OF FUNDING**

7	General Fund							\$
8	Redirection							\$
9	Reimbursements							\$
10	Federal Funds							\$
11	Special Funds							\$
12	Grant Funds							\$
13	Other Funds							\$
14	<b>PROJECT BUDGET</b>	\$		\$		\$		\$

**PROJECT FINANCIAL BENEFITS**

15	Cost Savings/Avoidances	\$		\$		\$		\$
16	Revenue Increase	\$		\$		\$		\$

**Note:** The totals in Item 4 and Item 12 must have the same cost estimate.

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION E: VENDOR PROJECT BUDGET** (USE ON IF PROJECT OVERSIGHT IS OUTSOURCED)

<b>Vendor Cost for M-FSR Development</b> (if applicable)	\$
<b>Vendor Name</b>	

<b>Project #</b>	
<b>Doc. Type</b>	

**VENDOR PROJECT BUDGET**

1.	Fiscal Year						TOTAL
2.	Primary Vendor Budget						\$
3.	Independent Oversight Budget						\$
4.	IV&V Budget						\$
5.	Other Budget						
6.	TOTAL VENDOR BUDGET	\$	\$	\$	\$	\$	\$

-----**(Applies to SPR only)**-----

**PRIMARY VENDOR HISTORY SPECIFIC TO THIS PROJECT**

7.	Primary Vendor	
8.	Contract Start Date	
9.	Contract End Date (projected)	
10.	Amount	\$

**PRIMARY VENDOR CONTACTS**

	Vendor	First Name	Last Name	Area Code	Phone #	Ext.	Area Code	Fax #	E-mail
11.									
12.									
13.									

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION F: RISK ASSESSMENT**

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<b>Project #</b>	
<b>Doc. Type</b>	

**RISK ASSESSMENT (see Appendix V for requirements)**

	<b>Yes</b>	<b>No</b>
<b>Has a Risk Management Plan been developed for this project?</b>		

*Identify issues that may cause any phase of the project to fail to meet goals or expectations. Identify measures to be taken to mitigate risks.*





## RISK ASSESSMENT REQUIREMENTS

This Section presents the minimum risk management requirements for all reportable IT projects. The project risk management requirements include the following three major components:

- Risk Analysis. This component covers the six steps necessary to identify, analyze and prioritize risks.
- Risk Action Planning and Tracking. This component includes a template for risk planning and tracking covering the most critical components of ongoing risk management.
- Risk Escalation. This section presents escalation criteria based upon project criticality and risk severity.

All projects should formally review risks at least monthly. Risks should be reviewed by a group of individuals representing all components of the project organization, to ensure identification of all risks.

### **Risk Analysis**

Basic risk analysis consists of three activities: identification of risks, assignment of risk attributes, and determination of risk severity. These activities are further described below, followed by a six-step approach to their implementation.

#### **Identify Risks**

Project risks should be identified in terms of specific concerns, problems or possible future occurrences that could result in negative impacts on project budget, schedule, or quality. Quality is broadly defined to include such important objectives as functionality, performance, usability and other similar functional, technical and performance objectives. Step 1, below describes how to identify and record project risks.

#### **Assign Risk Attributes: Impact, Likelihood and Time Frame**

Basic risk analysis involves understanding the impact of the negative consequence identified for each risk, and the probability, or likelihood, of occurrence of that consequence. In addition, a time frame is assigned to each risk, representing how soon action is required to prevent the risk from occurring. While necessarily subjective, assignment of these attributes should be based upon the best information and analysis available to the project manager. Steps 2, 3 and 4, below, describe how to assign the three key risk attributes.

### **Determine Risk Exposure and Risk Severity**

It is essential to rank or prioritize risks to understand the greatest potential threats to the project and to effectively plan and perform mitigation efforts. Using the ratings for impact, probability and time frame, risk severity is determined as described in Steps 5 and 6 below.

#### **Step 1: Identify Project Risks**

Use Appendix VIII: **Categories and Examples of Risks**, or a similar aid, to assist in identifying specific risks that are present on a particular project in each of the eleven checklist categories. The attachment presents representative concerns or problems that are often sources of risk on IT projects. It is meant to be an *aid in risk identification*, not a comprehensive and complete list of possible risks.

A risk statement is a concise declaration of risk using a standard notation or sentence structure:

*Concern • Likelihood • Consequence*

Examples of typical risk statements include:

Mandated unrealistic implementation date • will almost certainly • lead to significant missing functionality in the implemented system.

Late contractor deliverables • will likely • result in delayed pilot testing.

Regulation changes • may • result in the need for costly change orders and/or delayed implementation.

List brief statements describing each identified risk on Appendix VII, **Project Risk List**.

#### **Step 2: Assign an Impact rating of High, Medium, or Low to each identified risk.**

For impact, if the risk represents a significant negative impact on project budget, schedule, or quality, it should be rated high. Material impacts would significantly affect users, clients, or other key stakeholders, and should be rated medium. If the risk does not represent a significant or material impact on project budget, schedule or quality, it should be rated low. Record the expected impact for each risk on the **Project Risk List**.

#### **Step 3: Assign a probability rating of High, Medium, or Low to each identified risk.**

For probability, risks considered as almost certain or very likely to occur should be rated high. Risks that may occur or have a 50/50 chance of occurring should be rated medium. Risks considered unlikely to occur or that will probably not occur should be rated low. Record the expected probability for each risk on the **Project Risk List**.

#### **Step 4: Assign a time frame for mitigation to each identified risk.**

Next, the time frame within which action must be taken in order to successfully mitigate the risk should be rated. If the time frame is less than six months, assign a rating of Short; for 6 months to one year assign a rating of Medium; and for greater than one year, assign a rating of Long.

Record the time frame for each risk on the **Project Risk List**.

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION F: RISK ASSESSMENT**

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**Step 5: Determine Risk Exposure**

Risk exposure is derived from the risk attributes impact and probability, and is used, in conjunction with time frame, to prioritize risks for mitigation and escalation. Determine risk exposure for each risk from the intersection of that risk's impact and probability in the matrix below.

**Risk Exposure Matrix**

	Probability			
		High	Medium	Low
	High	High	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

Record the exposure for each risk on the **Project Risk List**.

**Step 6: Determine Risk Severity**

Risk severity is a function of exposure (from Step 5 above) and time frame and determines the relative priority of the identified risks. Determine risk severity for each risk from the intersection of that risk's exposure and time frame in the matrix below.

**Risk Severity Matrix**

	Exposure			
		High	Medium	Low
	Short	High	High	Medium
	Medium	High	Medium	Low
	Long	Medium	Low	Low

Record the severity for each risk on the **Project Risk List**.

**Risk Action Planning**

The project must develop an action plan for each identified risk and track progress against the plan.

If the project can continue and be successful with the anticipated impact of the risk, the project may choose to *accept* the risk, document the acceptance, and expend no further resources managing it.

If the risk cannot be accepted and there is action that can or must be taken, then *mitigate* the risk by developing and implementing a mitigation plan. Often, a simple list of action items, with responsibilities and due dates identified, will be an adequate plan. For projects of high and medium criticality, some high severity risks may require more elaborate mitigation planning. For example, a formal work breakdown structure (WBS) and resource budget may be required for particularly complex or high impact risks.

The minimum elements required for a risk planning and tracking process are shown in the **Risk Management Form** (Appendix E.) A risk management form must be completed for all Medium and High project risks. These risks must be reviewed and tracked monthly.

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION F: RISK ASSESSMENT**

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**Risk Escalation**

Depending upon risk severity, as determined in Step 6 above, and project criticality, some risks will be escalated from department to Agency, and from Agency to Finance. Not all risks require escalation and escalation of project risks will *not* necessarily result in a change in project criticality.

Risk escalation requirements are shown in the risk escalation matrix, below. Departments or Agencies must provide a current **Risk Management Form** to the Agency or Finance, respectively, within 15 calendar days of determination that the escalation requirements have been met.

**Risk Escalation Matrix**

Risk Severity				
Project Criticality		High	Medium	Low
	High	To Finance	To Agency	Department (No escalation)
	Medium	To Agency		Department (No escalation)
	Low	To Agency	Department (No escalation)	

**Project Risk List**

Project: \_\_\_\_\_

Date: \_\_\_\_\_

Brief Description of Risk	Impact	Probability	Time	Exposure	Severity
Plan/Schedule					
Organization and Management					
Development Environment					
User Involvement					
Contractor Performance					
Requirements Management					
Product Characteristics					
External Environment					
Personnel					
Design and Implementation					
Management Processes					
Other					

## Categories and Examples of Risk

### Plan/Schedule

- Schedule is optimistic, "best case," rather than realistic, "expected case"
- Plan omits necessary tasks
- Schedule was based on the use of specific team members, but those team members were not available
- Cannot build a product of the size specified in the time allocated
- Product is larger than estimated (in lines of code, function points, or percentage of previous project's size)
- Effort is greater than estimated (per line of code, function point, module, etc.)
- Re-estimation in response to schedule slips does not occur, or is overly optimistic or ignores project history
- Excessive schedule pressure
- A delay in one task causes cascading delays in dependent tasks
- Unfamiliar or complex areas of the product take more time than expected to design and implement

### Organization and Management

- Project lacks an effective top-management sponsor
- Layoffs and cutbacks reduce team's capacity
- Inefficient team structure reduces productivity
- Lack of specific technical expertise
- Management review/decision cycle is slower than expected
- Budget cuts
- Non-technical third-party tasks take longer than expected (control agency approvals, procurement, equipment purchase, legal reviews, etc.)
- Project plans are abandoned under pressure
- Inaccurate status reporting

**Development Environment**

- Facilities are not available on time
- Facilities are available but inadequate (e.g., no phones, network wiring, furniture, office supplies, etc.)
- Facilities are crowded, noisy, or disruptive
- Development tools are not in place by the desired time
- Development tools do not work as expected; developers need time to create workarounds or to switch to new tools
- Developers unfamiliar with development tools
- Development tools do not provide the planned productivity
- Development environment structure, policies, procedures are not clearly defined

**User Involvement**

- User introduces new requirements after agreed upon requirements specification is complete
- User finds product to be unsatisfactory
- User does not buy into the project and consequently does not provide needed support
- User input is not successfully solicited
- User review/decision cycles for plans, prototypes, and specifications are slower than expected
- User will not participate in review cycles for plans, prototypes, and specifications or is incapable of doing so
- User communication time (e.g., time to answer requirements-clarification questions) is slower than expected
- User-mandated support tools and environments are incompatible, have poor performance, or have inadequate functionality
- User has expectations for development speed that developers cannot meet

**Contractor Performance**

- Contractor does not deliver components when promised
- Contractor delivers components of unacceptably low quality, and time must be added to improve quality
- Contractor does not provide the level of domain expertise needed
- Contractor does not provide the level of technical expertise needed

**Requirements Management**

- Requirements have been base lined but continue to change
- Requirements are poorly defined, and further definition expands the scope of the project
- Additional requirements are added
- Vaguely specified areas of the product are more time-consuming than expected

**Product Characteristics**

- Error-prone modules require more testing, design, and implementation work than expected
- Unacceptably low quality requires more testing, design, and implementation work to correct than expected
- Development of flawed software functions requires redesign and implementation
- Development of flawed user interface results in redesign and implementation
- Development of extra software functions that are not required extends the schedule
- Meeting product's size or speed constraints requires more time than expected, including time for redesign and re-implementation
- Requirements for interfacing with other systems, other complex systems, or other systems that are not under the team's control result in unforeseen design, implementation, and testing
- Requirement to operate under multiple operating systems takes longer to satisfy than expected
- Development in an unfamiliar or unproved software environment
- Development in an unfamiliar or unproved hardware environment
- Dependency on a technology that is new or still under development

**External Environment**

- Product depends on law, policy or regulations that change frequently
- Multiple stakeholders outside the normal department chain of command
- Key software or hardware components become unavailable, unsupported or are unexpectedly scheduled for de-support

**Personnel**

- Acquisition of required project staff takes longer than expected
- Task prerequisites (e.g., training, completion of other projects) cannot be completed on time



- Poor relationships between project team and users or other stakeholders slow decision making and follow through
- Lack of needed specialization (includes technical and domain knowledge) increases defects and rework
- Personnel need extra time to learn unfamiliar software tools or environment
- Personnel need extra time to learn unfamiliar hardware environment
- Personnel need extra time to learn unfamiliar software language
- Unplanned turnover of contractor key personnel
- Unplanned turnover of State key personnel
- New development personnel are added late in the project, and additional training and communications overhead reduces existing team members' effectiveness
- Conflicts between team members
- Problem team members are not removed from the team
- The personnel most qualified to work on the project are not available or are not used
- Personnel with critical skills needed for the project cannot be found
- Key personnel are available only part time
- Not enough personnel are available for the project
- People's assignments do not match their strengths

**Design and Implementation**

- Design fails to address major issues
- Design requires unnecessary and unproductive implementation overhead
- Flawed design
- Use of unfamiliar methodology
- Necessary functionality cannot be implemented using the selected methods and tools
- Schedule savings from productivity enhancing tools are overestimated
- Components developed separately cannot be integrated easily
- Data conversion activities are underestimated or are ignored

**Process**

- Inaccurate progress tracking
- Upstream quality-assurance activities are limited or cut short
- Poor quality assurance
- Too little formality (lack of adherence to software policies and standards)
- Too much formality (bureaucratic adherence to software policies and standards)
- Weak risk management fails to detect major project risks
- Project management and tracking consumes more resources than expected

**ARB INFORMATION TECHNOLOGY MINI-FSR**  
**SECTION F: RISK ASSESSMENT**

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**INFORMATION SECURITY REQUIREMENTS**

	Yes	No
Does this project require a application server? If yes, this form must be signed by ARB Information Security Officer.		

Server administration requirements
<p>1. Server upgrade strategy: how will planning and testing of upgrades be addressed? Does the system include a test server?</p> <p>2. Security patches and security upgrade strategy: how will patches and/or security upgrades be tested? How frequently?</p> <p>3. Server configuration strategy: is there baseline configuration for servers? Are change control procedures, including documentation, in place? Who authorizes configuration changes?</p>

## MANAGEMENT OVERSIGHT REQUIREMENTS FOR LOW-RISK PROJECTS

Use the following form to complete the practices and processes section of the department-level project management capabilities assessment. Following is for a low criticality project only.

### Project Management Capability Assessment: Low Criticality Projects

Activity	All	Some	None
<b>Planning and Tracking</b>			
Are business cases, project goals, objectives, expected outcomes, key stakeholders and sponsor(s) identified and documented?			
Are project work plans including identification of activities, deliverables, milestones and schedule prepared and maintained?			
Are project organization charts prepared and kept current?			
Are project cost estimates, with supporting data for each cost category, maintained?			
Are actual costs, recorded for each cost category, recorded as they are incurred?			
Are actual costs regularly compared to budgeted costs?			
Is supporting data maintained for actual costs?			
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?			
Is there formal change control/approval for key specification documents (e.g. contracts, requirement specifications and other contract deliverables) and software products?			
Are issues and problems identified and tracked to closure?			
Is user satisfaction assessed at key points in the project?			
Are project closeout activities performed, including completion of a PIER, collection and archiving up-to-date project records and identification of lessons learned?			
<b>Procurement</b>			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?			
Is a detailed written contractor scope of work included in solicitation documents?			
<b>Risk Management</b>			
Are risks identified, analyzed, mitigated and escalated in accordance with			

Activity	All	Some	None
DOF/TOSU requirements?			
<b>Communications</b>			
Are regular written status reports prepared and provided to key stakeholders?			
Do status reports include progress against timeline and budget?			
Do status reports include results and status on risk and issue management?			
<b>System Engineering</b>			
Do users formally approve/sign-off on written specifications?			
Do users sign-off on acceptance test results before a new system is put into production?			